Amebiasis Masquerading as Appendicitis

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SUMMARY

In fifteen cases of amebiasis masquerading as appendicitis, the important findings were nausea, vomiting, epigastric pain, pain in the right lower quadrant of the abdomen, fever, and leukocytosis.

Amebiasis ought to be considered and appropriate studies carried out in differential diagnosis of cases in which symptoms indicate acute, subacute or "chronic" appendicitis. Depending on indications, the studies should include radiography with barium enema, sigmoidoscopy, complement fixation test, a minimum of nine stool examinations, a stool culture, and examination of purged stools unless this is contraindicated.

SINCE the recent war, much emphasis has been placed upon the diagnosis and treatment of amebiasis in its various clinical forms. During the past three years of observation at this Veterans Administration Hospital, the authors have been impressed with the frequency of amebiasis masquerading as appendicitis. In fact the similarity of one to the other was so striking in some cases that differentiation was frequently impossible on the basis of the clinical evidence alone, but was dependent to different degrees upon past history, laboratory study, the course of illness and response to specific therapy. In an excellent review, Hawe[1] discussed the differential diagnosis based upon his clinical experience in India. More recently in this country Kleitsch and Cherry[2] and Lisenby[3] called attention to this problem, particularly in ex-service personnel.

COMPOSITE CLINICAL PICTURE OF FIFTEEN CASES

The following is a composite of clinical observations in 15 cases of amebiasis which closely simulated appendicitis. All of the patients were referred by outside physicians with a diagnosis of acute appendicitis. In most cases there was history of previous similar episodes. The onset of illness was usually sudden, with mild nausea, occasional vomiting, frequently epigastric pain and, in all cases, right lower quadrant pain which was either sharp or cramp-like. In some but not all cases loose stools were passed, and occasionally definite constipation was present. Careful inquiry elicited a history of previous diarrhea or amebiasis in some cases. On examination, tenderness and rebound tenderness was often localized to the right lower quadrant, although in others it was more generalized. Muscle spasm was minimal or absent. The temperature was found to range from normal to 100°F. The number of leukocytes in the blood ranged from normal in some cases to as high as 18,000 per cu. mm. in others, with many immature neutrophils. Results of sigmoidoscopy and roentgen examination with barium enema were negative in all cases. Diagnosis was made in each case by the finding of E. histolytica in the stools and was corroborated by favorable response to specific antiamebic therapy.

ILLUSTRATIVE CASE REPORTS

CASE 1: A 25-year-old man entered the hospital with the following history: Six days before admission, following a beach party, anorexia developed. About 4 o'clock the following morning, the patient was awakened by nausea, epigastric pain and vomiting. An hour later the pain had shifted to the right lower quadrant, where it was sharp and non-radiating. Moderate relief was obtained with ice packs. After two days of observation in another hospital the patient was transferred to the Birmingham Hospital with diagnosis of subsiding acute appendicitis. Here the only additional notation in the history was that one month previously the patient had had a urinary infection, characterized by pyuria and dysuria, which was treated successfully with penicillin and a sulfonamide.

In a physical examination at this time no abnormality was noted. Results of urinalysis were within normal limits. The hemoglobin content of the blood was 14 gm. per 100 cc. Leukocytes numbered 18,250 with 81 per cent neutrophils. The next day the leukocyte count was 7,850 with normal cell differential. In examination of the stool, E. coli and I. buetschlii were observed. The patient was observed by both medical and surgical services and it is noteworthy that one of the staff members whose index of suspicion for amebiasis is always high felt that appendicitis was so strongly indicated that operation was warranted. He recommended, however, that more stools ought to be examined to determine if E. histolytica might not also be present. He felt that sigmoidoscopy might also be useful.

X-ray examination with barium enema was carried out and no abnormality was observed.

A normal appendix was removed. Following operation, E. coli, I. buetschlii and Giardia lamblia were observed in stool specimens. In the eighth stool examination, both the cysts and trophozoites of E. histolytica were observed. The patient was then treated for amebiasis and recovered. There was no recurrence of symptoms in a follow-up of two and one-half years.

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CASE 2: A 30-year-old man entered the hospital with complaint of acute abdominal distress. On the day before

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entry the patient had nausea without vomiting, and pain just below the umbilicus. He was awakened in the middle of the night by cramp-like pains in the lower abdomen bilaterally. A laxative was taken which produced loose watery stools in the morning, without relief of pain which was now localized to the right lower quadrant of the abdomen. A physician referred him to the Birmingham hospital, with a report of leukocytosis (15,000 per cu. mm.) and a diagnosis of acute appendicitis. Upon physical examination, pain and tenderness in the right lower quadrant of the abdomen and rebound tenderness in both lower quadrants were noted. There was pronounced tenderness in the right side of the rectum. Leukocytes numbered 17,300 with 87 per cent neutrophils, 10 per cent of which were immature forms. The initial impression was acute appendicitis. Further questioning elicited that the patient had been hospitalized four years previously for amebiasis. It was elected to observe the patient overnight. The next day, leukocytes numbered 9,700 with 80 per cent neutrophils, and the day after the leukocyte count was 8,100 with 60 per cent neutrophils. Six days after admission, the third stool examination was positive for E. histolytica. The patient was then treated for amebiasis and made uneventful recovery with complete abatement of symptoms.

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CASE 3. A 26-year-old male was admitted for nausea and pain in the right lower quadrant of the abdomen. There was point tenderness and rebound tenderness in that sector. Tenderness on the right side was noted during rectal examination. Leukocytes numbered 11,000 per cu. mm. of blood, with 74 per cent neutrophils. E. histolytica were observed in examination of stools. Uneventful recovery followed appropriate therapy. Three weeks prior to admission, the patient had had appendectomy because of the same symptoms.

DISCUSSION

The foremost aid in distinguishing amebiasis from appendicitis is a high index of suspicion for the former disease in cases labeled appendicitis. This suspicion should lead to careful attention to details of history, with particular reference to amebiasis, diarrhea, and details of previous similar attacks. As part of the workup of every case of "appendicitis" in which it is elected to observe the patient, stool examination should be carried out immediately and repeated daily until a minimum of nine stools have been examined. In most instances stool examinations are not seriously considered as part of the investigation in cases diagnosed as acute, subacute or "chronic" appendicitis. It is worthy of further note in this regard that during the Chicago epidemic of amebiasis 41 per cent of patients who were operated upon died.[4]

It is well known that many normal appendices are removed because of symptoms highly suggestive of acute or "chronic" appendicitis. When that occurs, repeated stool examinations should be carried out during surgical convalescence to rule out amebiasis. Likewise patients with recurrent pain in the right lower quadrant of the abdomen after appendectomy should have thorough stool examinations. It would also be important to know the exact pathologic condition observed in the removed appendix.

When a surgeon, operating because of symptoms of appendicitis, finds the appendix to be normal, he might profitably explore the right colon and ileum. If for any reason the colon is opened for inspection, smears should be taken and any suspicious lesion subjected to biopsy.

The following diagnostic procedures are recommended to rule out amebiasis: A minimum of nine stool examinations—direct, stained and concentrated—should be done. Purged stools may be included, unless this is contraindicated. If nonpathogenic amebae are found, search for E. histolytica should be intensified, and attempt should be made to culture this organism. The complement-fixation test may be an aid in diagnosis, although its availability is limited. A barium enema and sigmoidoscopy may be helpful in diagnosis, as was reported by Wilbur and Camp[6] and White,[5] but in the present series of cases these procedures were of no value.

The pathogenesis of such an abrupt onset of symptoms as that which occurs in some cases of amebiasis remains obscure. The tenderness localized to the right lower quadrant of the abdomen, the occasional fever and pronounced leukocytosis, suggest an acute process—possibly acute colitis caused by secondary bacterial invasion of minute amebic ulcers. Perhaps pathologic examination of material obtained during surgical exploration and more careful stool studies will provide the answer.

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